

SPECIAL AIRWORTHINESS INFORMATION BULLETIN

Aircraft Certification Service
Washington, DC



U.S. Department
of Transportation

**Federal Aviation
Administration**

CE-05-57
June 2, 2005

<http://www.faa.gov/aircraft/safety/alerts/>

This is information only. Recommendations aren't mandatory.

Introduction

This Special Airworthiness Information Bulletin (SAIB) alerts you, owners and operators of **Raytheon Aircraft Company (Beech) airplanes** (specific models listed in Table 1), of recent failures of General Machine-Diecron (GMD) main landing gear (MLG) actuator nut assemblies, part numbers (P/Ns) GMD115-810029-17 and -23, that are only installed in an electrical/mechanical MLG system. The Raytheon Modification Kit Nos. listed in Table 1 convert the aircraft to a hydraulic MLG system. One of these failures prevented the extension of the MLG.

Table 1

Models	Serial Numbers
F90 King Air	LA-2 through LA-225, except aircraft modified by Kit No. 90-8011
99, 99A, A99, B99 Airliner	U-1 through U-49, U51 through U164 except aircraft modified by Kit No. 99-8010-1, or factory installed hydraulic landing gear
100/A100 King Air	B-1 through B-94, B-100 through B-204, B-206 through B-247
B100 King Air	BE-1 through BE-137

200 Super King Air	BB-2, BB-6 through BB-733, BB-735 through BB-792, BB-794 through BB-828, BB-830 through BB-853, BB-872, BB-873, BB-892, BB-893, and BB-912 except aircraft modified by Kit No. 101-8018
B200 Super King Air	BB-734, BB-793, BB-829, BB-854 through BB-870, BB-874 through BB-891, BB-894, BB-896 through BB-911, and BB-913 through BB-1157, BB-1159 through BB-1166, BB-1168 through BB-1192 except aircraft modified by Kit No. 101-8018
200T/B200T Super King Air	BT-1 through BT-30 except aircraft modified by Kit No. 101-8018
200C/B200C Super King Air	BL-1 through BL-72 except aircraft modified by Kit No. 101-8018
200CT/B200CT Super King Air	BN-1 through BN-4 except aircraft modified by Kit No. 101-8018

Background

This SAIB is a result of failures of GMD MLG actuator nuts, P/N GMD115-810029-17 and -23. One failure resulted in a gear-up landing of a Beech King Air 200 airplane that the U.S. military operated. The above GMD parts are

direct replacements for Raytheon P/Ns 115-810029-17 and -23, respectively, installed in the right MLG actuator, Raytheon P/N 99-810057-651, of the aircraft electrical/mechanical MLG system. The GMD actuator nut assemblies are manufactured using a bronze nut, which is a “threaded insert” that screws into a threaded steel tube, to complete the GMD actuator nut assembly. Failure of the GMD actuator nut assemblies occurs when the bronze “threaded nut insert” partially separates or completely separates from the steel tube. These failures have occurred only on the right MLG actuator nut assemblies. The MLG retraction cycles tend to unscrew the “threaded nut insert” from the above GMD actuator nut assemblies installed on the Raytheon **RIGHT** MLG actuator, P/N 99-810057-651. If the bronze “threaded nut insert” partially or completely unscrews from the steel tube, it can prevent the actuator from extending or retracting the MLG to the locked position.

GMD has issued Alert Service Bulletin (ASB), GM-D-ASB 32-30-01/030305, (attached). This service bulletin recommends replacement of these assemblies as soon as practicable, but not to exceed 10 days or 20 flight cycles, with a new redesigned actuator nut assembly, P/N GMD115-810029-23B. The GMD SB was also published in the February 2005 Issue of the FAA “Aviation Maintenance Alerts”, Advisory Circular 43-16A, Alert No. 319.

Raytheon Service Bulletin (SB) No. 32-3433, dated August 2002 (Revision 1), was issued to require replacement of certain Actuator Nut Assemblies listed therein due to separation of these actuator nut assemblies in the “brazed insert” area. Raytheon considers this SB mandatory.

Recommendation

Failure of the MLG Actuator Nut Assemblies will prevent extension of the landing gear. Therefore, we strongly recommend that you perform an immediate inspection of the aircraft maintenance records and/or the Raytheon MLG Actuator Assembly,

P/N 99-810057-651, following these procedures:

1. Check the airplane logbooks or component records to determine if either of the GMD Actuator Nut Assemblies, P/N’s GMD115-810029-17 or GMD115-810029-23, has been installed in the above Raytheon MLG Actuator.
2. If the inspection of the aircraft records determines that either of these GMD actuator nut assemblies has been installed in the **RIGHT** MLG, you should replace the GMD actuator nut assembly with either GMD P/N GMD115-810029-23B or a new part identified in Raytheon SB No. 32-3433, Revision 1.
3. If either of the GMD actuator nut assemblies identified in procedure 1 is installed **OR** if the part number of the MLG actuator nut assembly cannot be determined from the aircraft records, you should inspect the Raytheon MLG actuator and/or replace the GMD actuator nut assembly following the “Accomplishment Instructions” of Raytheon SB No. 32-3433, Revision 1.

NOTE: Based on current information we only recommend these actions. We will continue this investigation and analyze any added information. We may require additional actions, such as the issuance of an Airworthiness Directive based on this analysis.

For Further Information Contact

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Alert Service Bulletin

* This Alert Service Bulletin supersedes Alert Service Bulletin GMD 32-30-01/021705 *

General Machine-Diecron, Inc. - 3131 US Hwy. 41 - Griffin, GA 30224
Alert Service Bulletin GM-D-ASB 32-30-01/030305 Rev: Initial Date: 03-03-05
Subject: Right Main Gear Actuator P/N 99-810057-651 with GMD115-810029-17 or GMD115-810029-23 nut installed

Effectivity:

All Beech King Air models F90, 99 series, 100 series, 200 series, with applicable GMD actuator nut installed in the Right Main Gear Actuator assembly.

Compliance:

As the FAA Production Approval Holder, General Machine-Diecron, Inc. strongly recommends accomplishment of this replacement as soon as is practicable, but not to exceed the next 10 days or 20 flight cycles, whichever occurs first.

This Alert Service Bulletin becomes effective upon receipt.

Reason- Unsafe Condition

Two (2) recent failures as reported by a military operator of a Beech King Air 200, one failure resulting in a “gear up landing”.

Subsequent teardown inspections of the actuators have been conducted and it has been determined that the subject GMD Actuator Nuts were the cause of the Actuator failures.

These findings confirm the need for replacement of the referenced GMD Actuator Nut to maintain safe operation of the aircraft. This Alert Service Bulletin is deemed relevant to all Beech King Air aircraft with subject GMD actuator nut installed.

Description: Complete following;

1. Remove actuator nut and replace with FAA approved actuator nut I/A/W Beechcraft Maintenance Manual Chapter 32.

The FAA/PMA approved replacement Actuator Nuts (GMD115-810029-23B) can be purchased by contacting our approved distributor, Professional Aviation Associates, Inc., in Atlanta, GA; Phone: 404-767-0282. Full credit for the purchase price will be issued upon receipt of the returned unit(s).

Weight and Balance - Not affected

Electrical Load Data - Not affected